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TITLE: Method of reducing formatting time for rewritable  
compact disks by formatting less than the entire logical  
format

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INVENTOR-INFORMATION:  
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US-CL-CURRENT: 369/59.25, 369/124.07 , 369/124.08

ABSTRACT:

A method of formatting rewritable compact optical disks. In some example embodiments, a disk is initially partially formatted for immediate useability, and then additional incremental formatting is provided until the disk is completely formatted. The additional formatting may take place while a drive is off-line. In one embodiment, data is written to an unformatted disk with data writing and formatting taking place simultaneously. In various example embodiments, lead-in and lead-out areas may be written first with nothing in between or lead-in and lead-out areas may optionally be written only if needed.

3 Claims, 22 Drawing figures

Exemplary Claim Number: 1

Number of Drawing Sheets: 12

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Brief Summary Text - BSTX (17):

In FIG. 2, a host computer first sends a command (200) to an idle drive (202) to partially format a blank disk. In step 204, the drive partially formats a disk with lead-in, program, and lead-out as depicted in FIG. 1A. Next, after detecting that the disk cannot hold new data that the host needs to write, the host computer (using UDF) sends a command (206) to incrementally format additional space. The additional space may optionally be greater than what is required to write the new data. The drive then formats new frames with null (arbitrary) data (208), writes new lead-in and lead-out areas (210). The host computer then sends the new data (212) and the drive writes new data in the newly formatted frames (214). As a result, each time the disk space needs to be expanded, in addition to simply writing the new data, a substantial amount of overhead time is required for formatting frames with null (arbitrary) data and rewriting the lead-in and lead-out areas.